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ABSTRACT OF THE DISCLOSURE

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A system for the collection and initial conditioning of sample gas for “on-line” analyzers, or filling of gas sample cylinders. The preferred embodiment of the present invention contemplates a system configured to obtain a representative gas phase sample from a process gas containing entrained liquid, or a process gas which generally is susceptible to partial condensation of some gas phase components. The preferred embodiment of the present invention teaches a sample probe assembly including a heat pipe configured for maintaining sample gas drawn through said sample probe at or near the source gas temperature and pressure. Accuracy of the analysis of source gas stream is enhanced and compositional changes of the gas phase are avoided by preventing the partial condensation of gas components or vaporization of entrained liquid. Alternative embodiments teach the insulation of the sampling conduit to maintain the sample gas at an isothermal condition equivalent to that of the fluid stream from which it is sampled.

Att'y Dkt: MAYED03/05

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[Overall Word Count: 4643 - 12/1/03]